AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

72. (Currently Amended) A method for creating structures in an electrically conductive surface of a substrate, comprising:

~~defining a pattern by using~~ providing a master electrode for receiving soluble anode material, the master electrode having ~~comprising~~ an electrically conductive surface less soluble than the soluble anode material and an insulating pattern layer arranged directly on the less soluble surface, the insulating pattern layer cooperating with the less soluble surface to define at least one cavity substantially devoid of soluble anode material; ~~the electrically conductive surface of the master electrode being of a first material, by:~~

depositing a quantity of soluble anode material on the less soluble surface of the cavity wherein the arranging of the insulating pattern layer directly on the less soluble surface prevents soluble anode material from being disposed between the less soluble surface and the insulating pattern layer;

bringing the master electrode in close contact with the electrically conductive surface of the substrate; and

wherein depositing includes at least one of ~~such that at least one cavity in the master electrode is defined by the electrically conductive surface of the substrate, the electrically conductive surface of the master electrode, and the insulating pattern layer of the master electrode; and~~

~~patterning the substrate by an electrochemical transfer process, wherein material is dissolved at an anode~~

~~and deposited at a cathode, and an electrolyte solution is used as a transport medium, wherein:~~

(a) supplying a quantity of soluble anode material onto the less soluble surface of the cavity and thereafter plating a pattern on the substrate by electrochemically transporting, through an electrolyte solution, soluble anode material deposited in the cavity to the electrically conductive surface of the substrate, wherein the insulating pattern layer is arranged directly on the less soluble surface in a manner substantially preventing undercutting of the insulating pattern layer during plating; and ~~the electrically conductive surface of the master electrode is the anode, the electrically conductive surface of the substrate is the cathode, or~~

(b) etching a pattern on the substrate by electrochemically transporting, through an electrolyte solution, soluble anode material from the electrically conductive surface of the substrate. ~~the electrically conductive surface of the substrate is the anode and the electrically conductive surface of the master electrode is the cathode, and~~

~~(c) the dissolved material is an anode material, which is pre-deposited in the at least one cavity defined in the master electrode,~~

~~wherein the first material is less dissolvable than the anode material in the electrolyte solution.~~

73. (Currently Amended) The method according to claim 72, wherein the ~~first material~~ electrically conductive surface of the master electrode is chemically inert with respect to ~~in~~ the electrolyte solution used.

74. (Currently Amended) The method according to claim 72, further including ~~connecting~~ supplying an external plating voltage in such way that the electrically conductive surface of the substrate becomes ~~the~~ a cathode and the master electrode becomes ~~the~~ an anode in local electrochemical plating cells, the plating cells being defined by the at least one cavity ~~in the master electrode, in which cavity the anode material has been pre-deposited~~.

75. (Currently Amended) The method according to claim 73, further including ~~connecting~~ supplying an external plating voltage in such way that the electrically conductive surface of the substrate becomes ~~the~~ a cathode and the master electrode becomes ~~the~~ an anode in local electrochemical plating cells, the plating cells being defined by the at least one cavity ~~in the master electrode, in which cavity the anode material has been pre-deposited~~.

76. (Currently Amended) The method according to claim 72, wherein the ~~pre-deposited~~ anode material is deposited ~~has been built up~~ in the cavity ~~in the master electrode~~ with electrochemical deposition, using an electrochemical cell, the electrochemical cell being defined by the cavity ~~in the master electrode~~.

77. (Currently Amended) The method according to claim 72, further including applying an external etching voltage in such way that the electrically conductive surface of the substrate becomes ~~the~~ an anode and the master electrode becomes ~~the~~ a cathode in ~~the~~ a local electrochemical etching cell, the cell being defined by the cavity ~~in the master electrode~~.

78. (Currently Amended) The method according to claim 73, further including applying an external etching voltage in such way that the electrically conductive surface of the substrate becomes ~~the~~ an anode and the master electrode becomes ~~the~~ a cathode in ~~the~~ a local electrochemical etching cell, the cell being defined by the cavity ~~in the master electrode~~.

79. (Currently Amended) The method according to claim 72, wherein ~~the~~ residual material deposited in the cavity ~~in the master electrode~~ is removed in a subsequent cleaning process.

80. (Currently Amended) The method according to claim 79, wherein the cleaning process includes electrochemical etching of the material deposited in the cavity ~~in the master electrode~~ using either a conventional electrochemical etching cell or local electro chemical cell, the cell being defined by the cavity ~~in the master electrode~~.

81. (Currently Amended) The method according to claim 72, wherein the electrically conductive ~~surface of the substrate~~ surfaces of the master electrode and the substrate comprises ~~a metal~~ an electrically conductive material.

82. (Currently Amended) The method according to claim 81, wherein ~~the metal~~ at least one of the electrically conductive surfaces of the master electrode and the substrate is chosen from the group ~~consisting~~ comprising ~~of copper~~ stainless steel, platinum, palladium, gold, nickel, ~~tin,~~ titanium, aluminum, ~~chrome~~ chromium, and alloys, wherein the group further comprises copper as an electrically conductive surface of the substrate ~~thereof~~.

83. (Currently Amended) The method according to claim 72, wherein a semiconductor structure is formed on the electrically conductive surface of the substrate ~~is a semiconductor~~.

84. (Currently Amended) The method according to claim 72, wherein a conductive polymer structure is formed on the electrically conductive surface of the substrate ~~is a conductive polymer~~.

85. (Currently Amended) The method according to claim 72, further including using applying a pulsed voltage applied between the master electrode and the substrate.

86. (Currently Amended) The method according to claim 85, wherein a frequency of the pulsed voltage is in ~~the~~ a range of about 2 to 20 kHz.

87. (Previously Presented) The method according to claim 85, wherein a frequency of the pulsed voltage is about 5 kHz.

88. (Previously Presented) The method according to claim 85, wherein the pulsed voltage is a periodic pulse reverse voltage.

89. (Previously Presented) The method according to claim 85, wherein the pulsed voltage has complex waveforms.

90. (Currently Amended) The method according to claim 72, wherein the electrolyte solution includes at least one of a concentration of electro-active ions of 10 to 1200 mM in the electrolyte solution and a sequestering agent ~~is used~~.

91. (Previously Presented) The method according to claim 90, wherein the sequestering agent is EDTA.

92. (Previously Presented) The method according to claim 72, wherein an additive system is used in the electrolyte solution, the additive system comprising at least one of wetting agents, accelerators, suppressors, and levelers.

93. (Previously Presented) The method according to claim 72, wherein the electrolyte solution has little or no supporting electrolyte and at least one of a high concentration of electro-active species and no chemical oxidation agent.

94. (Previously Presented) The method according to claim 72, wherein counter ions in the electrolyte solution are exchanged to ones which provide higher solubility.

95. (Currently Amended) The method according to claim 72, wherein the electrolyte solution comprises acid copper and the electrolyte solution has a pH value between 2 and 5.

96. (Previously Presented) The method according to claim 93, wherein the electrolyte solution is an optimized electrolyte in a local etching cell or a local plating cell.

97. (New) The method of claim 72 further comprising successively plating a pattern on multiple electrically conductive substrates, and wherein the method includes substantially emptying the cavity of soluble anode material between plating of successive substrates.

98. (New) A method for creating structures in an electrically conductive surface of a substrate, comprising:

providing a master electrode for receiving soluble anode material, the master electrode having an electrically conductive surface less soluble than the soluble anode material and an insulating pattern layer arranged directly on the less soluble surface, the insulating pattern layer cooperating with the less soluble surface to define at least one cavity substantially devoid of soluble anode material;

depositing a quantity of soluble anode material on a surface in the cavity less soluble than the anode material wherein the arranging of the insulating pattern layer directly on the less soluble surface of the master electrode prevents soluble anode material from being disposed between the less soluble surface and the insulating pattern layer;

bringing the master electrode in close contact with the electrically conductive surface of the substrate; and

wherein depositing includes at least one of

(a) supplying a quantity of soluble anode material onto the surface in the cavity less soluble than the anode material and thereafter plating a pattern on the substrate by electrochemically transporting, through an electrolyte solution, soluble anode material deposited in the cavity to the electrically conductive surface of the substrate, wherein the insulating pattern layer is arranged directly on the less soluble surface in a manner substantially preventing undercutting of the insulating pattern layer during plating; and

(b) etching a pattern on the substrate by electrochemically transporting, through an electrolyte solution, soluble anode material from the electrically conductive surface of the substrate.

99. (New) The method of claim 98 further comprising successively plating a pattern on multiple electrically conductive substrates, and wherein the method includes substantially emptying the cavity of soluble anode material between plating of successive substrates.